New Jersey Department of Environmental Protection
Mission Statement

Vision: The Department of Environmental Protection is committed to providing a high quality of life for the residents of New Jersey.

Mission: To assist the residents of New Jersey in preserving, sustaining, protecting and enhancing the environment to ensure the integration of high environmental quality, public health and economic vitality. We will accomplish our mission in partnership with the general public, business, the environmental community and all levels of government by:

- Developing and integrating an environmental master plan to assist the Department and our partners in decision-making through increased availability of resource data on the Geographic Information System.
- Defining and publishing reasonable, clear and predictable scientifically-based standards.
- Achieving the Department's goals in a manner that encourages compliance and innovation.
- Employing a decision-making process that is open, comprehensive, timely, predictable and efficient.
- Providing residents and visitors with affordable access to safe and clean open space, historic and natural resources.
- Assuring that pollution is prevented in the most efficient and practical way possible.
- Assuring that the best technology is planned and applied to achieve long-term goals.
- Assuring that non-treatable wastes are isolated, managed and controlled.
- Enhancing environmental awareness and stewardship through education and communication.
- Fostering a work environment that attracts and retains dedicated and talented people.
- Committing to an ongoing evaluation of the Department's progress toward achieving our mission.

State of New Jersey
Christine Todd Whitman, Governor

New Jersey Department of Environmental Protection
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Introduction

Section I

Overview

The *Publicly Funded Cleanups Site Status Report 1999* is a publication of the New Jersey Department of Environmental Protection's (NJDEP) Site Remediation Program. The report summarizes the work accomplished by the Division of Publicly Funded Site Remediation to investigate and clean up contaminated sites across the state for which no viable responsible parties exist. The Division of Responsible Party Site Remediation, the other division in the Site Remediation Program, supervises the investigation and cleanup of contaminated sites by responsible parties using private funds and loans and grants from the state. The combined efforts of both divisions result in cleaner and safer communities and workplaces and protection of New Jersey's valuable drinking water supplies.

In the year 2000, NJDEP is marking its 30th year protecting New Jersey's environment. Over the past three decades, the agency has continually sought new ways to improve the publicly funded investigation and cleanup process in New Jersey. Significant steps have been taken to accelerate remedial investigations and site cleanups, employ cost saving measures, identify and involve responsible parties, include local officials in cleanup actions and keep the public informed of remedial progress in their neighborhoods. For example, this issue of the Publicly Funded Cleanups Site Status Report details how the Corporate Business Tax, a recent source of funding for the Division, is lowering remedial project costs by reducing the need to sell bonds, allowing work to be initiated at additional sites and compelling responsible parties to perform their own investigations and cleanups. This issue also discusses how the Division of Publicly Funded Site Remediation is employing field investigation techniques to identify the responsible parties for ground water contamination, and other important topics.

As part of NJDEP's efforts to improve communication with the public, the Publicly Funded Cleanups Site Status Report is undergoing a change as well. Past editions of the report covered the work accomplished on a fiscal year basis, the last one being published for State Fiscal Year 1998. However, this year the report will cover the work accomplished during State Fiscal Year 1999 and the first half of State Fiscal Year 2000 (July 1, 1998 to December 31, 1999). This is being done to shift the Publicly Funded Cleanups report from a fiscal year basis to a calendar year basis. Accordingly, future editions of the *Publicly Funded Cleanup Site Status Report* will contain information up to December 31 of the current reporting year. This will make the information provided in the report more up to date when it is released with the *Site Remediation Program's Annual Report* in the spring of the following year.

NJDEP issues the *Publicly Funded Cleanups Site Status Report* on an annual basis pursuant to P.L. 1997, chapter 234, the state legislation that activated funding for remedial activities through appropriations of the Corporate Business Tax. A *Site Remediation Program Financial Plan Report*, which details funding projections for State Fiscal Year 2001, is also available under separate cover.

DPFSR Mission Statement

The mission of the Division of Publicly Funded Site Remediation (DPFSR) is to plan, manage and oversee publicly funded and publicly administered contaminated site investigations and cleanups pursuant to and in conformance with all applicable state and federal laws, rules and regulations. DPFSR offers support for all remedial activities undertaken by NJDEP by ensuring that technically, geologically and scientifically justified cleanup objectives are met.

In addition, DPFSR assists the Department of Treasury in procurement activities and provides assistance to the public through community outreach and information systems, and provides assistance to the regulated community and the public on health and safety issues.

Corporate Business Tax supports new site investigations, cleanups

The Division of Publicly Funded Site Remediation has historically relied on a variety of different funding sources to pay for remedial activities at its sites. In recent years, this funding mix consisted largely of revenues generated through the sale of hazardous waste bonds and fee collections from the New Jersey Spill Fund, as well as smaller amounts allocated from the Hazardous Discharge Site Cleanup Fund. During State Fiscal Year 1998, the Division of Publicly Funded Site Remediation obtained an important new source of funding to supplement these resources. Through an amendment to the state's constitution that was approved by voters in 1997, a portion of New Jersey's annual Corporate Business Tax (CBT) receipts is set aside as a source of public funds to conduct remedial investigations and cleanups at contaminated sites. Between $18 and $21 million in CBT revenues have been allocated to the publicly funded Division for remedial projects each fiscal year since this funding began (Figure 1). By December 31, 1999 this amounted to almost $73 million in additional funds for such activities as investigating soil and ground water at industrial properties, testing private wells and extending public water lines in ground water contamination areas, installing water treatment systems on contaminated municipal supply wells and removing leaking underground storage tanks from abandoned or insolvent gas stations.

In addition to providing public funds to conduct remedial projects, the availability of CBT revenues has benefited the Division of Publicly Funded Site Remediation in two other major ways. First, the final costs to the state for remedial projects are significantly lower when CBT revenues are used to fund the projects instead of money generated from the sale of bonds, since long-term debt expenses are not incurred. At current interest rates, using revenues obtained from the sale of 20-year bonds to pay for remedial projects increases the final costs of the projects by almost 60 percent. Second, unlike the traditional funding sources, the allocation of CBT revenues assures the Division of Publicly Funded Site Remediation a relatively consistent level of funding from year to year. This allows for better financial planning, which in turn enables the publicly funded division to initiate work at more priority sites.

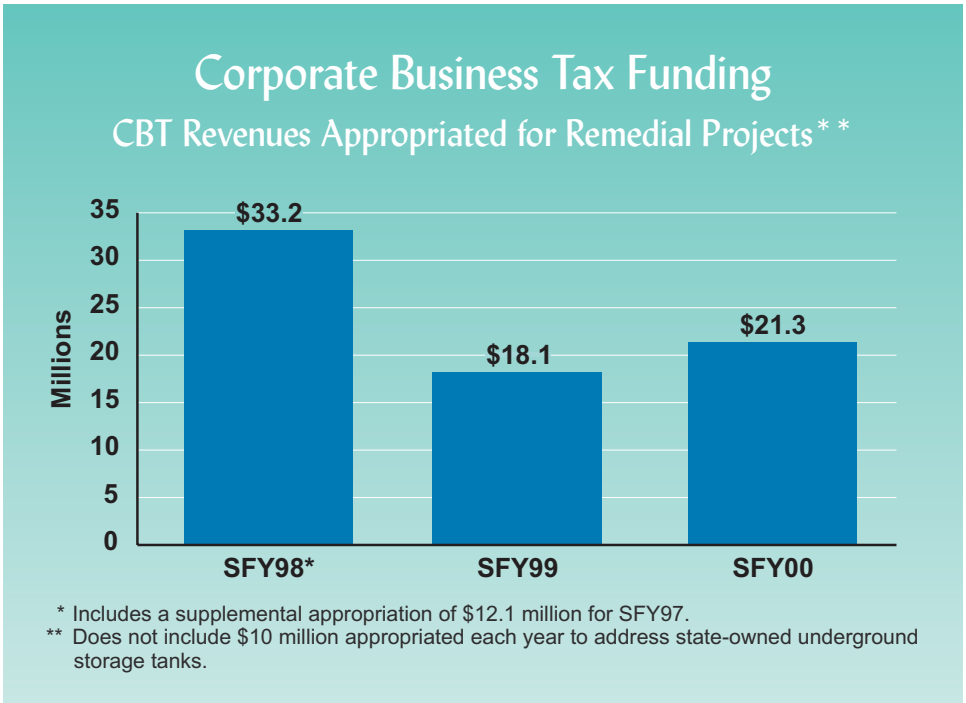

Figure 1

During State Fiscal Year 1999 and the first half of State Fiscal Year 2000 (July 1, 1998 to December 31, 1999) the Division of Publicly Funded Site Remediation authorized the expenditure of $31 million of CBT funds on remedial projects at its sites. The majority of these monies were allocated to supplement other sources of funding at non-Superfund sites where remedial activities were ongoing prior to State Fiscal Year 1999. For example, the Division of Publicly

Examples of sites that received Corporate Business Tax (CBT) funding from July 1998 through December 1999

Parsippany Troy Hills Municipal Wells 4 & 4A
Parsippany Troy Hills Township, Morris County

NJDEP authorized the expenditure of approximately $258,000 in CBT funds to help fund the construction of an air stripper at this contaminated municipal well field.

MSLA-1D Landfill
Kearny Town, Hudson County

NJDEP authorized the expenditure of $462,000 in CBT funds to perform a Remedial Design for a slurry wall at this landfill.

Vineland Chemical Company
Superfund Site
Vineland City, Cumberland County

NJDEP provided $3.5 million in CBT funds to USEPA to help pay for the construction of a soil flushing/sediment remediation system and ground water treatment system at this site.

Funded Site Remediation authorized $300,000 in CBT funds in 1999 to supplement $300,000 that was previously approved from the 1986 Hazardous Discharge Bond Fund to investigate and remediate the former Alfonso's Restaurant site in Waterford Township, Camden County. The restaurant, which has been inactive for more than 10 years, was built on a defunct fuel oil storage and distribution facility. The publicly funded division removed nine underground storage tanks and their contents, including 1,900 gallons of waste oil, and 2,700 tons of contaminated soil from the site in the spring of 1999. Additional investigative work is planned to determine whether all of the contaminated soil has been addressed and to evaluate the ground water quality. In another case, the publicly funded division authorized $258,000 in CBT revenues to supplement $581,000 obtained from the 1986 Hazardous Discharge Bond Fund to pay for the construction of a treatment system for Parsippany-Troy Hills Municipal Wells 4 and 4A. The wells were contaminated with tetrachloroethylene, a common organic solvent, at levels exceeding New Jersey Drinking Water Standards. The installation of an air stripper was completed in 1999 by the township under a third party contract with the NJDEP.

Approximately $3.8 million in CBT monies was authorized during this 18-month period to initiate work at 23 sites new to the publicly funded program. These 23 sites include 20 Immediate Environmental Concern (IEC) cases where expedited actions were required to mitigate environmental and public health hazards, two sites where Remedial Investigations were begun to delineate contamination in soil and ground water, and one landfill where a pre-design study was initiated. At the end of the first half of State Fiscal Year 2000, there were 209 active sites undergoing investigation and cleanup in the publicly funded division, a

Sites Initiated Between July 1, 1998 and December 31, 1999 Using Corporate Business Tax (CBT) Funds

Site Name	Municipality	County	CBT Funds Authorized
1603 Dumont Terrace	Wall Township	Monmouth	$125,000
331 Broadway	Long Branch City	Monmouth	$243,000
398 Olden Avenue	Trenton City	Mercer	$336,000
A Kurnel & Sons	Berkeley Township	Ocean	$450,000
Cranberry Lake Ground Water Contamination	Byram Township	Sussex	$25,200
Gagliardi Demolition	Vineland City	Cumberland	$225,000
Gary's Gas & Go	Middle Township	Cape May	$6,000
Livingston Twp Water Dept. Well #11	Livingston Township	Essex	$979,000
Magnolia Lane Ground Water Contamination	Sea Girt Borough	Monmouth	$50,000
McFarland's Service Station	Bridgewater Township	Somerset	$150,000
Mobil Service Station - Flemington	Flemington Borough	Hunterdon	$282,000
MSLA1-D Landfill	Kearny Town	Hudson	$462,000
Nicholas Drive Ground Water Contamination	Franklin Township	Gloucester	$67,500
Oak Ridge Road Ground Water Contamination	West Milford Township	Passaic	$35,000
Red Horse Shoppes Inc.	Clinton Township	Hunterdon	$36,000
Route 22 & N. Gaston Ave Ground Water Contamination	Bridgewater Township	Somerset	$45,000
South Brunswick Asphalt	Berkeley Township	Ocean	$70,000
Stephen Drive & Linda Lane Ground Water Contamination	Winslow Township	Camden	$20,000
The Kings Path Ground Water Contamination	Hopewell Township	Mercer	$12,000
Tysley Road Ground Water Contamination	Bernardsville Borough	Somerset	$52,500
Veronica Lane & Lillian Drive Ground Water Contamination	Monroe Township	Gloucester	$53,000
White Horse Pike Ground Water Contamination	Mullica Township	Gloucester	$17,500
Zion Road Ground Water Contamination	Egg Harbor City	Atlantic	$12,000

Figure 2

net increase of 19 sites from the end of State Fiscal Year 1998 (excluding the 50 Water Supply sites listed in Section III). A list of the sites where Remedial Investigations were initiated and IEC remedial actions were performed using CBT funds during State Fiscal Year 1999 and the first half of State Fiscal Year 2000 is provided in Figure 2.

One of the new sites being addressed by the Division of Publicly Funded Site Remediation using CBT monies is the Municipal Sanitary Landfill Authority (MSLA) 1-D Landfill in Kearny Town, Hudson County, an inactive landfill that reportedly received large quantities of hazardous materials while it was in operation. Because the landfill was not properly closed when it ceased operations in the 1980s, thousands of gallons of leachate contaminated with organic compounds and metals discharge from the landfill into the adjacent wetlands and Passaic River daily. In 1999, the Division of Publicly Funded Site Remediation authorized the expenditure of $462,000 in CBT funds to conduct a pre-design study to develop the parameters for a slurry wall, a subterranean barrier that will be installed around the landfill to prevent the leachate from migrating off site. Construction of the slurry wall is expected to begin in 2001.

In another new case, the publicly funded division used CBT funds to address private potable well contamination in the Crystal Lake area of Monroe Township, Gloucester County (also known as the Veronica Lane and Lillian Drive Ground Water Contamination site). The Division of Publicly Funded Site Remediation sampled potable wells at 40 homes in this area using CBT funds in June 1999 after the Gloucester County Health Department and the United States Geological Service determined that several wells in the community were contaminated with volatile organic compounds and mercury. Based on the findings of the potable well sampling, the Division of Publicly Funded Site Remediation delineated a project area consisting of 163 homes that have been or could potentially be affected by the ground water contamination. NJDEP and the Monroe Township Municipal Utilities Authority are preparing to extend public water lines to these residences in 2000 using $2.3 million in CBT funds.

In a final example, in 1998 the Division of Publicly Funded Site Remediation authorized the expenditure of $225,000 in CBT funds for a Remedial Investigation at Gagliardi Demolition, a former junkyard located in Vineland City, Cumberland County. Preliminary sampling conducted at the site by NJDEP revealed the presence of polychlorinated biphenyls (PCBs), semi-volatile organic compounds and metals in the soil and possible low levels of radiation. The Division of Publicly Funded Site Remediation has installed a fence around the site and plans to begin the soil and ground water sampling phase of the Remedial Investigation in the spring of 2000.

Most of the 23 sites where work was initiated using CBT funds during these eighteen months are ground water contamination cases where drinking water supplies have been affected and the source is under investigation. Others were transferred to the publicly funded program for action after the responsible parties had failed to comply with NJDEP directives to perform remedial investigation or cleanup work. The MSLA 1-D Landfill site is part of NJDEP's Landfill Initiative, a program to properly close inactive sanitary landfills in order to mitigate ground water and surface water pollution and reduce greenhouse gas emissions.

Corporate Business Tax provides 10% matching funds for Superfund sites

In addition to furnishing much needed funds for remedial work at non-Superfund sites, the CBT funding provides valuable support for New Jersey's Superfund program, enabling the Division of Publicly Funded Site Remediation to procure additional federal funds for cleanup actions. Under Superfund regulations, the state is required to supply 10 percent of the total costs for construction activities and long-term remedial actions at publicly funded Superfund sites before federal dollars will be committed for these projects. Using CBT funds, the Division of Pub-

Superfund Sites Receiving 10% Matching Funds from Corporate Business Tax (CBT) between July 1, 1998 and December 31, 1999

Site Name	Municipality	County	CBT Funds Authorized
Asbestos Dump	Long Hill Township	Morris	$799,000
Brook Industrial Park	Bound Brook Borough	Somerset	$536,000
Cosden Chemical Coatings	Beverly City	Burlington	$210,000
Ellis Property	Evesham Township	Burlington	$152,000
Federal Creosote	Manville Borough	Somerset	$500,000
Glen Ridge Radium	Glen Ridge Borough	Essex	$1,700,000
Industrial Latex	Wallington Borough	Bergen	$1,200,000
Lang Property*	Pemberton Township	Burlington	$260,000
South Jersey Clothing/Garden State Cleaners	Buena Borough	Atlantic	$350,000
Pepe Field	Boonton Town	Morris	$1,200,000
Roebling Steel Co.	Florence Township	Burlington	$500,000
Vineland Chemical Co.	Vineland City	Cumberland	$3,500,000

* Long Term Remedial Action (LTRA)

Figure 3

licly Funded Site Remediation provided $10.9 million for construction and long-term remedial actions at 12 Superfund sites during the 18-month period between State Fiscal Year 1999 and the first half of State Fiscal Year 2000, thereby securing more than $100 million in federal Superfund money for these sites. Figure 3 provides a list of these sites along with the amount of the 10% matching funds provided using CBT revenues for the period of this report.

Among these sites is the Vineland Chemical Company Superfund site in Vineland City, Cumberland County, which received $3.5 million in CBT funds to supplement federal funds for a ground water treatment system and an on-site system to treat soil and brook sediments contaminated with arsenic. In another example, the Division of Publicly Funded Site Remediation authorized $500,000 in CBT funds to supplement $4.5 million in federal funds for the Federal Creosote Company Superfund site in Manville Borough, Somerset County. USEPA will be using this money to buy out and relocate up to 19 homeowners at this residential development where homes were built on a former creosoting facility and extensive soil contamination exists.

Corporate Business Tax funds emergency sampling

In State Fiscal Year 1999, the Division of Publicly Funded Site Remediation relied on CBT revenues to fund emergency sampling at a recreational lake in Pemberton Township, Burlington County, when a potential public health threat was identified. Preliminary data obtained by the NJDEP's Division of Watershed Management in May of 1999 indicated that sediments in Hanover Lake at the Fort Dix military base contained high levels of lead due to bullet fragments from the nearby firing ranges. This raised the possibility that Mirror Lake, a popular swimming and fishing lake located downstream, may have been contaminated with this toxic metal. The Division of Publicly Funded Site Remediation immediately dispatched a sampling team to Mirror Lake to collect water and sediment samples for analysis of lead. Based on the analysis of these samples, NJDEP was able to quickly assure local officials and residents that the levels of lead in the lakes presented no immediate health hazard to swimmers or bathers. Later that summer, the Division of Publicly Funded Site Remediation also evalu-

ated lead content in samples of fish caught from Mirror Lake and concluded that no health hazard existed for people consuming fish from the lake. Approximately $35,000 in Corporate Business Tax funds was used to conduct the sampling at Mirror Lake during the spring and summer of 1999. Representatives of Fort Dix subsequently agreed to conduct further investigations to fully determine the impact of the firing ranges on Hanover Lake and the other lakes in the area and take appropriate remedial measures. The United States Environmental Protection Agency is supervising this investigation.

Corporate Business Tax funding prompts private investigations and cleanups

CBT funding has come to play an important role in the Site Remediation Program's efforts to compel responsible parties to investigate and clean up their sites. New Jersey's Spill Compensation and Control Act of 1976, which first established public funding for cleanup of contaminated sites, included a provision that responsible parties can be subjected to treble damages if NJDEP must resort to using public funds to address their sites. However, this enforcement tool is only effective if the State's publicly funded cleanup program has sufficient funds available to perform the necessary remedial activities. Allocations of CBT revenues to the Division of Publicly Funded Site Remediation have significantly increased the amount of funding available to perform these cleanups, which in turn has provided a strong incentive for responsible parties to address their sites. When financially solvent responsible parties finance their own remedial investigations and cleanups, more public funds are available for the Division to address sites where no viable responsible parties exist.

During State Fiscal Year 1999 and the first half of State Fiscal Year 2000, other parties agreed to assume remedial work at 12 sites that were being handled by the Division of Publicly Funded Site Remediation, saving an estimated $36 million in public funds. A summary of these 12 sites is provided in Figure 4, and a list of all sites to date that were started as publicly funded and switched to privately funded is available on page 293 of Section III. Among these are t0he Global, Helen Kramer and JIS landfills, three major landfills that are listed on the National Priorities List of Superfund sites. In each of these three cases, a group of responsible parties consisting of waste generators and waste transporters have agreed to conduct the necessary remedial work under the supervision of USEPA and the NJDEP's Division of Responsible Party Site Remediation.

Sites Transferred from Publicly Funded to Responsible Party Division July 1, 1998 – December 31, 1999

Site Name	Municipality	County	Type
Amoco Service Station, Garfield City	Garfield City	Bergen	Non-Superfund
Corbin City Board of Education	Corbin City	Atlantic	Non-Superfund
Crawford Property	Monroe Township	Gloucester	Non-Superfund
Global Landfill	Old Bridge Township	Middlesex	Superfund
Gulf Service Station, Upper Freehold Twp.	Upper Freehold Township	Monmouth	Non-Superfund
Helen Kramer Landfill	Mantua Township	Gloucester	Superfund
High Point Sanitary Landfill	Franklin Township	Warren	Non-Superfund
JIS Landfill	South Brunswick Township	Middlesex	Superfund
Kingtown Diesel	Roxbury Township	Morris	Non-Superfund
North American Paint Corporation	Ocean Township	Monmouth	Non-Superfund
Routes 539 & 537 (Friedman Property)	Upper Freehold Township	Monmouth	Superfund
Washington Valley Auto Repair	Warren Township	Somerset	Non-Superfund

Figure 4

Superfund financial update

During the Federal Fiscal Year 1999 (October 1, 1998 to September 30, 1999) USEPA allocated almost $36.6 million in federal funds for remedial actions at 12 Superfund sites in the state of New Jersey, which includes a 10 percent match from the state. The funds were allocated both for new cleanups, such as the on-site treatment of PCB-contaminated soil at the Industrial Latex Superfund site, as well as ongoing long-term remedial actions, such as ground water treatment at the Bog Creek Farm and Lang Property Superfund sites. A summary of the New Jersey Superfund sites that received these funds is provided in Figure 5.

In addition to the $36.6 million allocated for remedial actions, USEPA committed $21.8 million for remedial investigation and remedial design work at other Superfund sites in New Jersey during Federal Fiscal Year 1999, with no state matching funds required. This funding brings the total amount of Superfund monies allocated to New Jersey since 1981 to almost $1.59 billion. Approximately 78% of this amount, or $1.23 billion, were dedicated to conduct remedial actions, the phase of the remedial process that directly protects human health and the environment, with the remainder used for site characterization and design work.

A listing of all Superfund sites in New Jersey is presented on page 321 of Section IV.

Superfund Cleanup Funding For Federal Fiscal Year 1999

Site	Cleanup Work	Money
Asbestos Dump (Long Hill Township, Morris County)	Installation of landfill cover and maintenance activities at two residences	$1,548,100
Bog Creek Farm (Howell Township, Monmouth County)	Continued operation of ground water treatment system	$1,000,000
Brook Industrial Park (Bound Brook Borough, Somerset County)	Excavation and disposal of contaminated soil	$1,390,000
Burnt Fly Bog (Marlboro Township, Monmouth County)	Maintenance activities in Uplands Area	$156,000
Federal Creosote Company (Manville Borough, Somerset County)	Contaminated soil removal and residential buy out	$5,000,000
Garden State Cleaners (Buena Borough, Atlantic County)	Installation of ground water treatment system	$1,750,000
Industrial Latex Corporation (Wallington Borough, Bergen County)	On-site treatment of contaminated soil	$11,518,000
Lang Property (Pemberton Township, Burlington County)	Continued operation of ground water treatment system	$1,300,000
Pepe Field (Boonton Town, Morris County)	Excavation and disposal of soil	$2,000,000
Roebling Steel Company (Florence Township, Burlington County)	Building demolition	$4,129,000
South Jersey Clothing Company (Buena Borough, Atlantic County)	Installation of ground water treatment system	$1,750,000
Vineland Chemical Company (Vineland City, Cumberland County)	Removal of arsenic-contaminated sediments from rivers	$5,100,000

Figure 5

Origins of the Site Remediation Program

In the late 1970s and early 1980s, public support for a coordinated cleanup effort and pioneering state and federal laws enabled NJDEP to establish a progressive program to address contaminated sites. Beginning with the passage of the New Jersey Spill Compensation and Control Act in 1976, the state initiated the first program in the country for the cleanup of contaminated sites that posed danger to human health and the environment. This program became a national model. For the first time serious consideration was given to reversing decades of industrial, commercial and household waste mismanagement that resulted in discharges of hazardous substances into the environment.

Following New Jersey's lead, the federal government created a program to provide financial aid and technical guidance in cleaning up the nation's more serious contaminated sites. Enacted in 1980, the law is called the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), more commonly known as Superfund. This program was strengthened in 1986 by the Superfund Amendments and Reauthorization Act (SARA).

As the universe of potentially contaminated sites in New Jersey continued to increase from an original inventory of about 1,200 sites, NJDEP expanded its cleanup efforts to meet the challenges posed by a variety of pollution problems. The passage of several key state laws facilitated these endeavors, including the Environmental Cleanup Responsibility Act (later replaced by the Industrial Site Recovery Act) and Underground Storage Tank Act. The inventory of sites maintained by the Site Remediation Program, collectively known as the Comprehensive Site List, now includes 39, 473 sites, of which more than 21,000 have received No Further Action designations from NJDEP.

Cleanup progress – Remedial Action, Emergency Removal projects completed

The Remedial Action and Emergency Removal Action work conducted by NJDEP and USEPA is the most visible indication of cleanup progress in a community. A Remedial Action can include, but is not limited to, the following types of measures:

- Installation of a ground water treatment system
- Installation of an on-site soil treatment system
- Removal of contaminated soil or other contaminated materials
- The demolition of on-site buildings when necessary to facilitate the remedial process
- Installation of a landfill cap or slurry wall
- Excavation of buried drums or removal of surface drums
- Removal of leaking underground storage tanks
- Installation of a soil cover or asphalt cap over contaminated soil
- Installation of a public water line or a treatment system on a municipal supply well through a third-party contract with the local water purveyor or township

During State Fiscal Year 1999 and the first half of State Fiscal Year 2000, NJDEP and USEPA completed Remedial Action projects at 19 sites at a total cost of $75.6 million. These actions are listed in Figure 6, and include remedial measures performed by NJDEP at state-lead Superfund sites and non-Superfund sites (including Immediate Environmental Concern or IEC sites) and remedial measures taken by USEPA at federal-lead Superfund sites. Particularly noteworthy of these are the Combe Fill South Landfill Superfund site and the Big Hill Sanitary Landfill, which

NJDEP capped at costs of $36.7 and $12.5 million, respectively, and the Garden State Cleaners/South Jersey Clothing Company Superfund sites, where USEPA installed a $15 million ground water treatment system.

In Federal Fiscal Year 1999, USEPA conducted Emergency Removal Actions at nine sites throughout the state at a total cost of $2.5 million. Under an Emergency Removal Action, materials that present direct contact, inhalation or ingestion hazards or present other immediate dangers are removed from a site and disposed of at an approved facility. Typical examples of Emergency Removal Action are the removal of drums of hazardous wastes, contaminated soil or other materials. The Emergency Removal Actions conducted by USEPA are listed in Figure 7 and include actions taken at federal-lead Superfund sites and non-Superfund sites that are not currently being addressed by NJDEP. For example, at

NJDEP and USEPA Remedial Action Project Completions

Site Name	Municipality	County	Cost
State Fiscal Year 1999			
331 Broadway	Long Branch City	Monmouth	$160,000
58 Speir Drive	South Orange Village	Essex	$15,000
A. Kurnel & Sons	Berkeley Township	Ocean	$200,000
A - Z Automotive Repair Center	West Milford Borough	Passaic	$200,000
Alfonso's Restaurant	Waterford Township	Camden	$175,000
Arky Property	Marboro Township	Monmouth	$275,000
Big Hill Sanitary Landfill	Southampton Township	Burlington	$12,500,000
Combe Fill South Landfill	Chester Township	Morris	$36,725,000
Evor Phillips Leasing Company	Old Bridge Township	Middlesex	$3,823,000
Neighborhood Garage	Middlesex Borough	Middlesex	$310,000
Noble Oil	Tabernacle Township	Burlington	$200,000
Stor Dynamics	Elmwood Park Borough	Bergen	$185,000
Welsbach and General Gas Mantle	Camden and Gloucester Cities	Camden	$3,024,000
First Half of State Fiscal Year 2000			
Brook Industrial Park	Bound Brook Borough	Somerset	$357,000
Cosden Chemical Coatings	Beverly City	Burlington	$2,100,000
Electronic Parts Specialty Company	Lumberton Township	Burlington	$80,000
Garden State Cleaners/South Jersey Clothing	Buena Borough	Atlantic	$15,000,000
Glenwood Terrace Ground Water Contamination	Bridgewater Township	Somerset	$290,000
Western Boulevard Ground Water Contamination	Berkeley Township	Ocean	$10,000

Figure 6

USEPA Emergency Removal Action Completions

Site Name	Municipality	County	Cost
Nascolite Corp.	Millville City	Cumberland	$4,000
Haven Avenue Lead Site	Ocean City	Cape May	$444,000
Kauffman & Minteer, Inc.	Springfield Township	Burlington	$593,000
General Color Co.	Newark City	Essex	$4,000
Abbett Avenue Site	Morristown Town	Morris	$55,000
Welsbach & General Gas Mantle (Camden)	Gloucester City	Camden	$683,000
UDO Finishing Co.	Newark City	Essex	$133,000
Sampson Tank Cleaning	Bayonne City	Hudson	$32,000
Fried Industries	East Brunswick Township	Middlesex	$500,000

Figure 7

the Welsbach & General Gas Mantle Company Superfund site, USEPA spent $683,000 to remove contaminated soil from a municipal park in Camden City, Camden County that had been built on top of fill containing radioactive wastes. USEPA expects to conduct additional remedial activities to address radioactive soil at homes in this area in the near future.

Long-Term Operations and Maintenance actions ensure protection

The Operations and Maintenance (O&M) phase of the cleanup process ensures that the Remedial Action taken at a site functions effectively and/or remains protective of human health and the environment. The term O&M (also known as Long-Term Remedial Action, or LTRA) covers a wide range of activities, including operating ground water remediation systems at contaminated sites, replacing mechanical parts of on-site treatment systems, and cutting grass on landfill caps. O&M activities also include the environmental monitoring that may be performed to evaluate the effectiveness of a Remedial Action after it has been completed. A typical example of this is the periodic sampling of ground water that is conducted after a source of contamination has been addressed at a site or after a plume of ground water contamination has been remedied through active treatment. NJDEP hires private contractors to perform most of these O&M or LTRA activities, with Department staff providing oversight and technical review.

Top: NJDEP and local officials mark the completion of the landfill cap at the Big Hill Landfill in August 1999. From left to right: NJDEP Director Tony Farro, Southampton Mayor James Young, NJDEP Commissioner Bob Shinn, Jr., Southampton Deputy Mayor John Hicks, and Assemblyman Larry Chatzidakis.

During State Fiscal Year 1999 and the first half of State Fiscal Year 2000, NJDEP and USEPA conducted O&M or LTRA activities at 37 sites at a cost of $11.5 million. A list of these sites and the types of O&M actions underway is provided in Figure 8. As additional sites move past the Remedial Action phase and into O&M, more of these long-term actions will be required to keep treatment systems running properly and to ensure

Right: A NJDEP technician uses a field analytical instrument to check the efficiency of the soil vapor extraction system at the Milltown Amoco Service Station site.

that the measures taken have been successful in addressing site conditions.

Publicly funded site activity

The *Publicly Funded Cleanups Site Status Report* provides information on 419 sites being addressed by the Site Remediation Program—345 with public funds and 74 by private parties after public funds initially were expended. The publicly funded site universe is represented in Figure 9.

There are 208 individual descriptions of sites with active remedial measures under way and one additional "site" description that encompasses 53 separate sites affected by chromium contamination in Hudson County. Also, 50 Water Supply sites where NJDEP provided an alternate drinking water supply or treatment system and is, or will be, investigating the source of the contamination are described on page 283 of Section III. In total, 311 active sites are being addressed with public funds.

Operation, Monitoring & Maintenance Projects Underway

Project Name	Action	Type
243 North Texas Avenue	Free Product Recovery	Non-Superfund
5 Devon Avenue	Free Product Recovery	Non-Superfund
7 Hawk Lane	Ground Water Monitoring	Non-Superfund
A-Z Automotive	Ground Water Pump & Treat, POET Maintenance	Non-Superfund
Albert Steel Drum	Ground Water Monitoring	Non-Superfund
Amoco Service Station Milltown	Vapor Recovery	Non-Superfund
Amoco Service Union City	Ground Water Monitoring	Non-Superfund
Big Hill Landfill	Canterbury Pond Maintenance, Methane Gas Collection System	Non-Superfund
Bog Creek Farm* LTRA	Ground Water Pump & Treat	Superfund
Burnt Fly Bog	Site & Sediment Pond Maintenance	Superfund
Citgo Service Station North Brunswick	Ground Water Monitoring	Non-Superfund
Combe Fill North Landfill	Monitoring, Cap Maintenance	Superfund
Combe Fill South Landfill	Cap & POET Maintenance	Superfund
Denzer & Schafer X-Ray	Ground Water Monitoring	Superfund
Edgewood Village	Ground Water Monitoring	Non-Superfund
Evor Phillips Leasing Co.	Ground Water Pump & Treat	Superfund
Exxon Service Station Lakehurst	Ground Water Pump & Treat, Vapor Recovery	Non-Superfund
Florence Land Recontouring Inc Landfill	Leachate, Methane Gas Collection, Cap Maintenance	Superfund
Garden State Cleaners*	Ground Water Pump & Treat	Superfund
Higgins Farm* LTRA	Ground Water Pump & Treat	Superfund
Holland Sales Service Inc	POET Maintenance	Non-Superfund
Hope Auto Care	Ground Water Pump & Treat, Vapor Recovery	Non-Superfund
Hudson County Chromate (16 Sites)	Cap, Fence Maintenance	Non-Superfund
Imperial Oil Company Inc	Floating Oil Product Removal	Superfund
Jack's Auto	Free Product Recovery	Non-Superfund
Lang Property * LTRA	Ground Water Pump & Treat	Superfund
Lipari Landfill*	On-Site Leachate/Ground Water Pump & Treat	Superfund
McFarlands Service Station	Free Product & Vapor Recovery	Non-Superfund
Neighborhood Garage	Ground Water Pump & Treat, Vapor Recovery	Non-Superfund
PJP Landfill	Cap Maintenance	Superfund
Research Organics Inorganics	Ground Water Monitoring	Non-Superfund
Semonian Service	Vapor Recovery	Non-Superfund
South Jersey Clothing Company*	Ground Water Pump & Treat	Superfund
Syncon Resins	Ground Water Pump & Treat	Superfund
Texaco Service Oaklyn Borough	Ground Water Monitoring	Non-Superfund
Welsbach & General Gas/Ste-Lar Building	Site Maintenance	Superfund
Williams Property LTRA	Ground Water Pump & Treat	Superfund

*USEPA manages O&M work at these sites.
LTRA - Long-Term Remedial Action

Figure 8

Various remedial activities have been performed at these 311 active sites, including numerous successful cleanup actions. However, all work is not yet completed.

The remaining 108 sites included in this report are categorized as follows: 34 No Further Action sites where NJDEP has completed all remedial action, and 74 sites where remedial work was conducted with public funds or administered by NJDEP and/or USEPA before the responsible parties agreed to complete the remaining remedial activities and oversight was transferred to the Site Remediation Program's responsible party division.

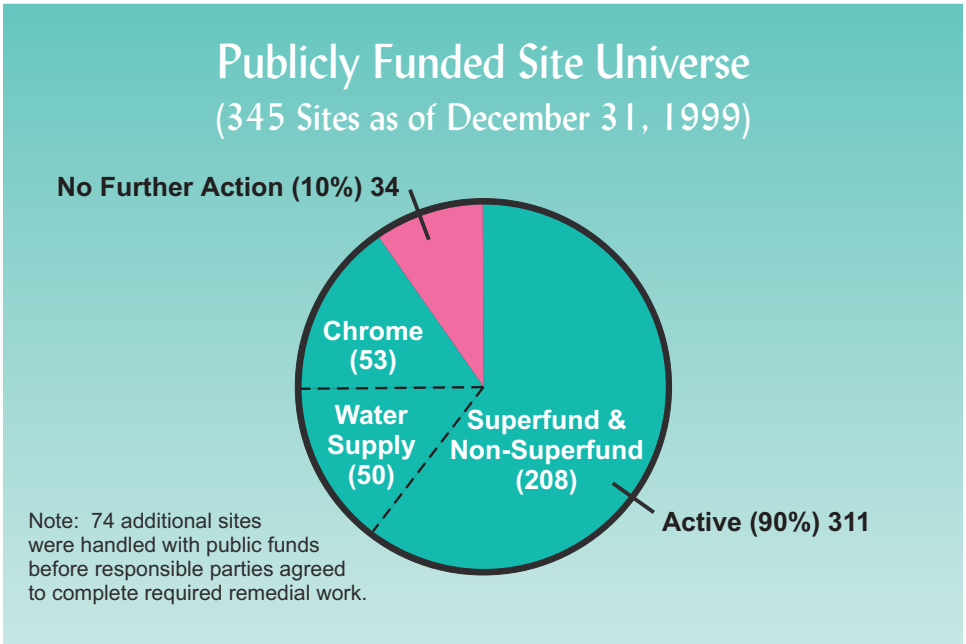

Figure 9

The Site Highlights section of this report features examples of publicly funded cleanup work at a variety of contaminated sites typically encountered by NJDEP. This section provides photographs and diagrams of actual construction activities at six sites to help illustrate the remedial process. These examples show how NJDEP's and USEPA's publicly funded cleanups: 1) remediate contaminated soil and ground water at former industrial properties 2) remove contaminated soil and buried hazardous materials that are direct contact hazards and potential sources of ground water contamination; and 3) provide a safe source of potable water for residents with contaminated private potable wells.

Cumulative site cleanup progress

Clearly, since the late 1970s, NJDEP has made significant progress in cleaning up sites with public funds at both Superfund and non-Superfund sites. More than half of the environmental problems identified at the 419 Superfund and non-Superfund sites that required public cleanup monies have been completely addressed or are being worked on through long-term operation, monitoring and maintenance to ensure the integrity of past remedial work.

Early in the remedial process, NJDEP conducts preliminary assessments and site investigations to help determine if a site is contaminated and what remedial activities should be conducted to achieve a successful cleanup. Also, private parties and local officials often discover contaminated sites that are eventually referred to NJDEP for remedial activities with public funds. After a site has been confirmed to be contaminated and specific areas of concern have been identified, the overall property is divided into an appropriate number of subsites to address the various environmental problems. Most of these subsites routinely require a series of remedial projects to address the specific contamination associated with these subsites. These projects normally progress in the following order: 1) Remedial Investigation and Feasibility Study (RI/FS) at Superfund sites or Remedial Investigation and Remedial Action Selection Report (RI/RASR) at non-Superfund sites (both abbreviated only as RIs in site description bar graphs); 2) Remedial Design (RD); 3) Remedial

Action (RA); and, 4) Operation and Maintenance (O&M). However, it is important to note that remedial work at every subsite does not always proceed in this sequence. Work at a subsite may involve only an RA project where removal of a known amount of contamination is performed, such as removal of an abandoned underground storage tank. The overall remedial process is described on pages xxii and xxiii.

Statistics in the text below and accompanying charts show the current status of activity at all subsites and the overall number of projects under way or completed. The subsite status and project listings are two key indicators used to track remedial progress at contaminated sites.

Between the inception of the Superfund program in 1980 and December 31, 1999, 130 New Jersey sites have been placed on the National Priorities List (NPL) for Superfund cleanups. As of December 31, 1999, NJDEP and USEPA were using public funds to address 56 of these sites, and eight additional sites had been removed from the NPL after all remedial work was completed using public funds. Also, at the end of the first half of State Fiscal Year 2000, NJDEP and USEPA were administering privately funded cleanup efforts at 58 Superfund sites, and eight sites had been removed from the NPL after work was completed using private funds.

The 56 publicly funded Superfund sites active as of December 31, 1999 and eight removed from the NPL after publicly funded cleanups were completed have been divided into 166 subsites to track remedial progress more closely. Of this number, 82 subsites—or 49 percent—have an NFA status and no longer pose a threat to human health or the environment. The status of the remaining 84 subsites is: 23 in RI/FS, 21 in RD, 19 in RA and 21 in O&M. There are two subsites where work has yet to be initiated. Also, remedial work previously conducted by NJDEP and USEPA with public funds at 20 additional Superfund sites, where responsible parties have since agreed to complete the remaining remedial work, resulted in 38 subsites achieving a NFA status. All these remedial statistics are depicted in the "Superfund Subsite Status" chart in Figure 10.

Progress at these publicly funded Superfund sites also is portrayed in Figure 11 in the "Superfund Site Remedial Project Activity" chart. A full listing of these projects and the sites at which they were or are currently being performed is included in Section IV.

Public funds also are necessary to complete remedial activities at non-Superfund sites where a responsible party is unknown, or unwilling or unable to conduct the necessary work. Federal monies can sometimes supplement emergency actions or preliminary assessments and investigations at these sites. However, state funds are required to conduct the majority of remedial work as they do not meet the criteria to be placed on the NPL.

At the 204 non-Superfund sites that are being or have been addressed with public funds as of

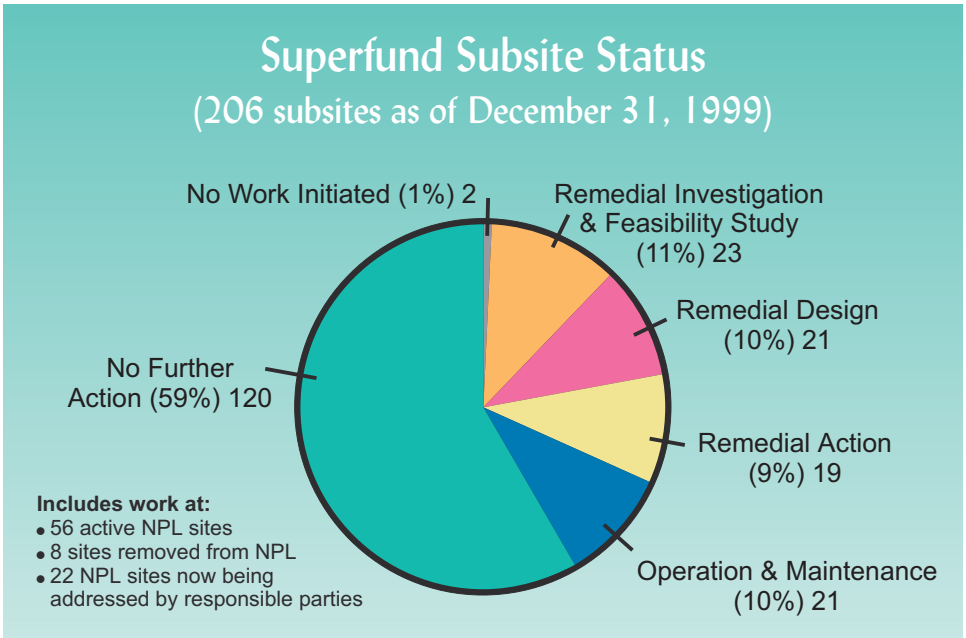

Figure 10

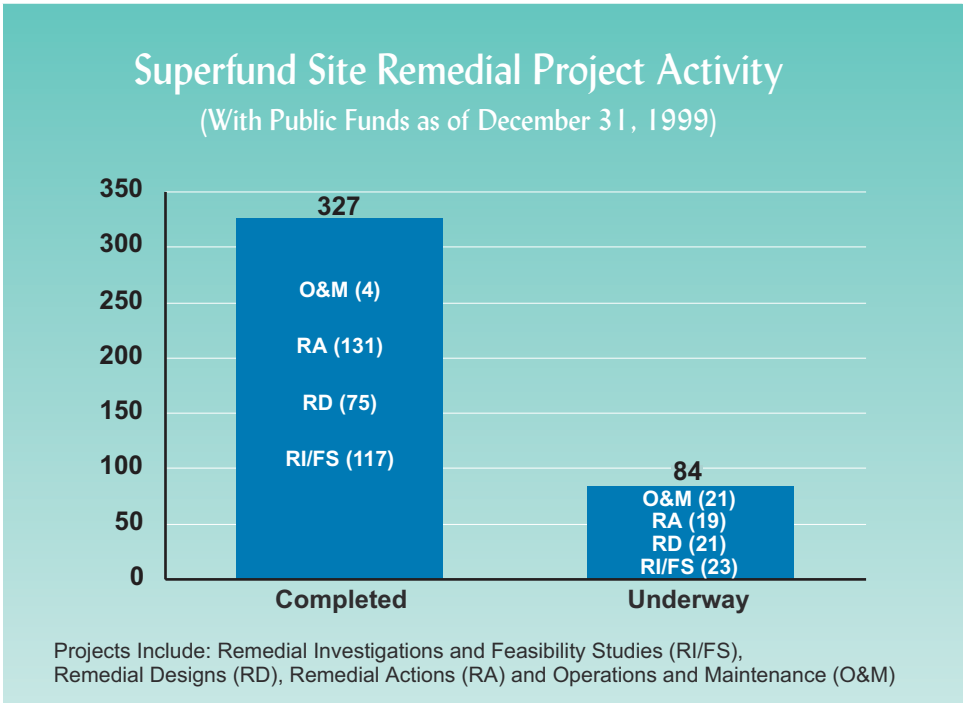

Figure 11

December 31, 1999, there are 361 subsites. Of this number, 182—or 50 percent—have an NFA status and no longer pose a threat to human health or the environment. The status of the remaining 179 subsites is: 75 in RI/RASR, eight in RD, 70 in RA and 26 in O&M. There are 14 subsites where work has yet to be initiated. Remedial work previously conducted by NJDEP with public funds at 25 additional non-Superfund sites, where responsible parties have since agreed to complete the remaining remedial work, resulted in 30 subsites achieving an NFA status. In Figure 12, the "Non-Superfund Subsite Status" chart illustrates these remedial statistics.

Progress at non-Superfund sites also is represented in Figure 13 in the "Non-Superfund Remedial Project Activity" chart. A full listing of all these projects and the sites at which they were performed is included in Section IV.

Mitigating IEC Threats

During State Fiscal Year 1999 and the first half of State Fiscal Year 2000, the Division of Publicly Funded Site Remediation was involved with approximately 90 Immediate Environmental Concern (IEC) sites in New Jersey. Some were new cases as mentioned previously, while others continued to require action by the division. NJDEP will designate a site an IEC if one or more of the following conditions exist:

1. Contaminants in excess of New Jersey Drinking Water Standards are detected in private potable wells or a municipal supply well.
2. Organic vapors volatilizing from contaminated soil or a plume of contaminated ground water

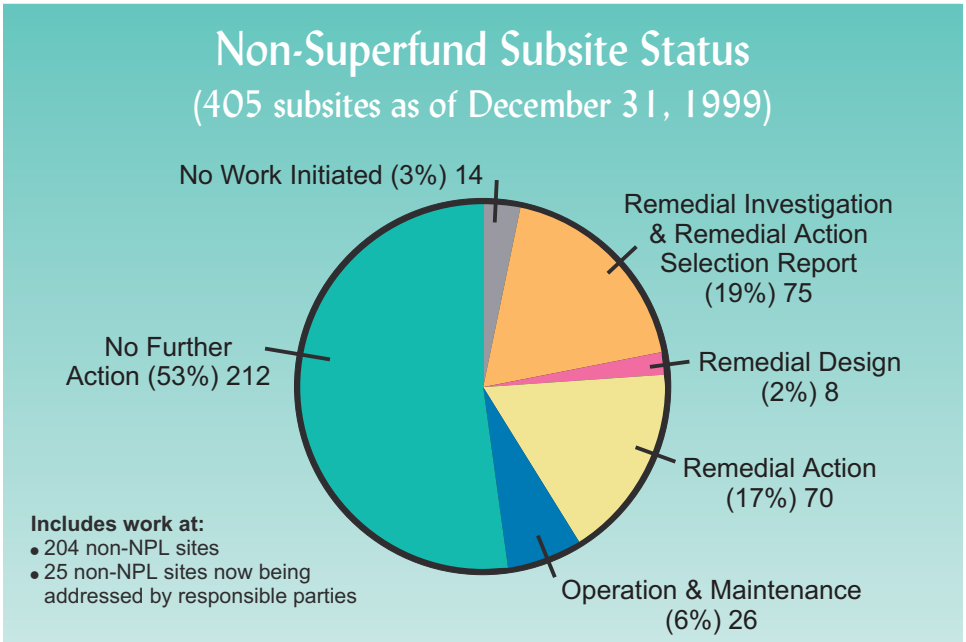

Figure 12

The Remedial Process

For the purpose of evaluating the progress of publicly funded cleanup activities at Superfund and non-Superfund sites, it is important to understand how sites move through the remedial process. A site is usually divided into subsites or operable units, allowing for variation in the speed or extent to which problem areas at a site are addressed. In this manner, contamination at subsites presenting the most immediate environmental concerns can be dealt with first, such as removal of surface wastes or containment of waste materials to prevent the threat of direct contact or off-site migration. The remaining subsites that move through the remedial process usually involve more complex studies and cleanup actions, such as treatment of contaminated soil or ground water. The projects described below may occur at both the site or subsite level, depending on the complexity of the contamination at the location being addressed. A subsite's status depends on the type of work under way. If all work is completed, the No Further Action status described below applies.

A **Remedial Investigation and Feasibility Study (RI/FS)** is an examination conducted at Superfund sites to determine the extent of contamination and identify acceptable alternatives for cleanup. Substantial effort is expended in characterizing environmental problems at a site during the **RI**. Select criteria are then employed during the **FS** to analyze and evaluate in detail the effectiveness, implementability, timeliness, cost and community concerns associated with each alternative considered. At non-Superfund sites, a **Remedial Action Selection Report (RASR)** is performed in place of a **Feasibility Study**. All publicly funded actions and most privately funded actions at non-Superfund sites require a **RASR** prior to selecting and implementing a cleanup plan. Also, for publicly funded sites, both Superfund and non-Superfund, NJDEP presents a preferred alternative for public comment that best meets the stipulated evaluation criteria.

A **Remedial Design (RD)** is the development of engineering plans and specifications to implement the remedy selected from the **FS** or **RASR**, such as sizing a ground water treatment plant or developing an accurate measurement of contaminated soil that must be removed for off-site disposal. Further data collection and analysis may be required to finalize design specifications.

A **Remedial Action (RA)** is the implementation of the selected remedy. An **RA** could include: removal of contaminated soil; capping contaminated soil or fill; treatment of contaminated soil, ground water or drinking water; fencing; and, other actions. This phase, often referred to as the construction period, is the most visible indicator of cleanup progress. NJDEP soil cleanup criteria

have been established for many contaminants to guide unrestricted, limited restricted and restricted remedial actions. This enables cleanup and reuse of some sites, such as a former industrial complex, at a lower cost. A **Deed Notice** (formerly called a Declaration of Environmental Restriction) is imposed for sites that only comply with the restricted soil criteria (a limited restricted remedial action) or when engineering controls at sites with soil contamination levels that exceed the restricted criteria adequately protect public health and the environment (a restricted remedial action). This notice ensures the disclosure of site conditions to future owners and the maintenance of required engineering controls. Certain exceptions for affected ground water also can be obtained depending upon its use. A **Classification Exception Area** is established at sites when ground water contaminant levels exceed state ground water quality criteria, but there is an expectation that over time such standards will be met.

Operation and Maintenance (O&M) usually occurs when long-term cleanup actions are ongoing, such as ground water extraction and treatment with appropriate monitoring. At sites where contamination is left to naturally attenuate over time, monitoring alone may be required. These treatment systems and/or monitoring efforts, lasting from one to 30 years, are necessary to ensure compliance with cleanup standards selected for the site. At sites where restricted cleanups are conducted, **O&M** may continue indefinitely.

A **No Further Action (NFA)** designation is given when all remedial activities that were necessary to address an environmental concern have been completed. An **NFA** designation also is given when it is determined that regulatory requirements have been satisfied and no additional remedial work is required at the subsite. A **conditional NFA** is obtained when all remedial work has been completed at a site, but a **Deed Notice**, **Classification Exception Area** or **engineering control** is required because some contamination above appropriate standards or criteria remains. Also, a **conditional NFA** is obtained when only a portion of an entire site has been addressed in an unrestricted, limited restricted or restricted manner.

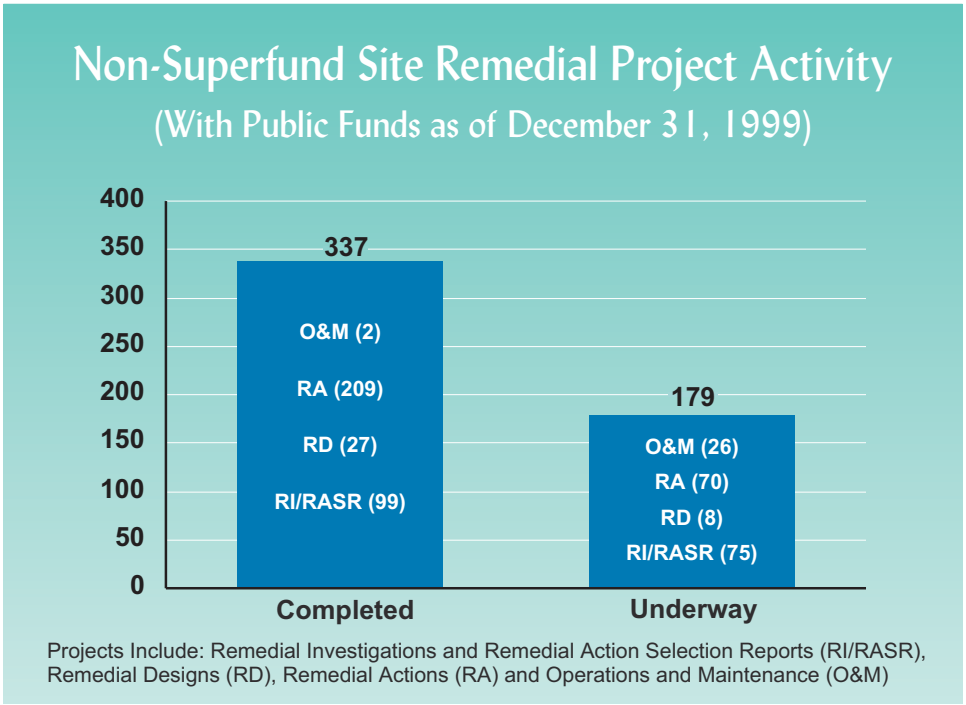

Figure 13

accumulate in an enclosed area, such as a basement, creating an explosion hazard and/or the potential for inhalation of toxic fumes.

3. A discharge of hazardous substances at a site presents a direct contact hazard.

Of the approximately 90 IEC cases addressed between July 1998 and December 1999, almost 90 percent were of the first type described above. To provide clean drinking water to residents whose potable water supplies have been contaminated, NJDEP usually has several options. In the case of contaminated private potable wells, Point-of-Entry Treatment systems may be installed on the wells or the residence connected to the public water line, if one is available. Another option, although rarely utilized, is to drill a new deeper well for the resident. In the case of a contaminated municipal supply well, NJDEP will work with the city or township to install a water treatment system, such as an air stripper or carbon filtration unit, at the well field to return the well to service. Figure 14 summarizes the six sites where NJDEP provided the municipality or local water purveyor with funds to install a water treatment system on a municipal supply well or helped to provide public water to residents with contaminated private wells during this 18-month period.

In State Fiscal Year 1999 and the first half of State Fiscal Year 2000, the Division of Publicly Funded Site Remediation conducted work at eight sites where organic vapors presented potential explosion or inhalation hazards, the second most common IEC scenario. For example, in 1998, ground water contaminated with gasoline mi-

Water Line and Well Field Remediation Projects July 1998 through December 1999

Site Name	Municipality/County	Project	Cost
Allendale Borough Water Dept. Well Field	Allendale Borough, Bergen	Air Stripper	$456,000
B&V Tailoring and Cleaning	Mountain Lakes Borough, Morris	Air Stripper	$532,000
Bridgeton City Water Dept. Well Field	Bridgeton City, Cumberland	Air Stripper	$605,000
Ivins & Madison Aves Ground Water Contamination	Egg Harbor Township, Atlantic	Water Line	$13,000*
Parsippany-Troy Hills Water Dept. Wells 4&4A	Parsippany-Troy Hills Township, Morris	Air Stripper	$839,000
Washington Township Well 18	Washington Township, Gloucester	Air Stripper	$439,500

* Spill Funds provided for residential service connections only. Additional service connections to be reimbursed during the second half of SFY00.

Figure 14

grated from an abandoned service station at 331 Broadway in Long Branch City, Monmouth County, causing gasoline vapors to accumulate to hazardous levels in a nearby underground utility vault owned by the telephone company. NJDEP subsequently removed eight underground gasoline storage tanks and 1,300 cubic yards of gasoline-contaminated soil from the former service station to remove the source of contamination to ground water. NJDEP is also addressing two similar IEC cases in Trenton City, Mercer County and Flemington Borough, Hunterdon County where gasoline contamination from abandoned service stations has caused hazardous levels of gasoline to build up in underground utility vaults. Utility companies have taken measures to ventilate the vaults and NJDEP is conducting Remedial Investigations and Remedial Action Selections (RI/RAS) at the service stations to delineate the extent of the contamination and identify cleanup alternatives.

Source investigation project

In 1996, the Division of Publicly Funded Site Remediation initiated a program to identify responsible parties in areas where ground water contamination has impacted private potable wells and municipal supply wells, the most common types of Immediate Environmental Concern cases. Funded with grant money provided by USEPA, the program is implemented by a staff of 14 within the Division's Environmental Measurements and Site Assessment Section (EMSA). By taking active measures to identify the origin of the ground water contamination, NJDEP can ensure that the source is properly addressed, and pursue cost recovery against the responsible parties for expenses associated with placing treatment systems on private and municipal wells and installing water lines to replace private wells.

Identifying the responsible parties for residential and municipal well contamination is a two-stage process, consisting first of an area-wide ground water investigation to track the contamination and focus on potential sources, followed by preliminary assessment and site investigation (PA/SI) to confirm the suspected source. The initial phase of the area-wide ground water investigation entails researching public records to identify the locations of both active and former establishments whose operations may have contributed to the ground water contamination. Depending on the type of contaminants present, these may include gasoline stations, dry cleaners, or industries that employ hazardous chemicals as part of their manufacturing processes. Next, EMSA conducts a ground water investigation in the affected area. Ground water samples are collected using a Geoprobe, a device that installs temporary borings

NJDEP field sampling personnel measure depth to ground water from a Geoprobe boring.

and probes into the ground. This allows field personnel to collect ground water samples without the expense of installing permanent ground water monitor wells. Residential or irrigation wells in the area may also be sampled to further delineate the extent of the ground contamination. Field analytical instruments and NJDEP's mobile laboratory are used extensively during this phase to reduce sample turnaround time and accelerate the analytical process.

If the sampling data from the ground water investigation indicates that one or more facilities may be responsible for the ground water contamination, EMSA conducts a PA/SI at the site or sites. During the preliminary assessment phase, EMSA evaluates a facility's operational history and identifies areas at the property where the contamination may be originating from, such as an underground storage tank, septic system, drum storage area or discharge pipe. Soil and ground water are sampled at these areas of concern during the site investigation phase to determine the presence or absence of contamination. Samples collected from the property during the PA/SI are sent to a certified analytical laboratory to generate legally defensible data for enforcement and/or cost recovery purposes. If the PA/SI confirms that the facility is contributing to the ground water contamination, then NJDEP issues the responsible party a directive requiring them to investigate the discharge and remediate the site under an Administrative Consent Order with the Department.

To date, EMSA has completed source investigations at 17 ground water contamination areas and identified 16 responsible parties for 13 of these areas, with a potential for almost $22 million in cost recovery. (For information on source investigations completed in State Fiscal Year 1999 and the first half of State Fiscal Year 2000, please refer to page 289 in Section III.) EMSA's success in identifying sources of private and public well contamination is an important component of NJDEP's efforts to ensure safe drinking water for all of New Jersey's residents.

Ground Water Impact Area update

In State Fiscal Year 1999 and the first half of State Fiscal Year 2000, the Division of Publicly Funded Site Remediation continued its efforts to evaluate potable water quality near Ground Water Impact Areas (GWIA) throughout the state. A GWIA is an area where NJDEP has determined that five or more private potable wells in close proximity are contaminated at levels exceeding New Jersey Drinking Water Standards. NJDEP identified more than 100 GWIAs during the late 1980s and early 1990s and in each of these cases supplied clean drinking water to those who needed it, either through the installation of Point-of-Entry Treatment systems (POETS) or public water lines. The purpose of the current study is to determine whether additional private potable wells at properties located near these GWIAs have been impacted due to migration of the contaminated ground water.

The Division of Publicly Funded Site Remediation has begun to evaluate private potable wells near 52 GWIAs where volatile organic compounds were the primary contaminants of concern. Sampling of private potable wells has been initiated at 10 of these GWIAs. Preliminary results show that a total of 50 potable wells in three of these GWIAs are contaminated with various compounds above drinking water criteria, and these wells have been equipped with POETS. The Division of Publicly Funded Site Remediation expects to complete sampling at all of the 52 GWIAs in this group during the next three years. An evaluation of an initial group of 17 GWIAs, which was completed in State Fiscal Year 1998, identified 32 homes in five GWIAs that required installation of POETS or connection to the public water line. The Division of Publicly Funded Site Remediation plans to conduct periodic monitoring of drinking water quality near all GWIAs in the initial and current groups where the findings from these evaluations have indicated that potable wells may be impacted in the future.

Community involvement activities

As part of the Site Remediation Program's public outreach efforts, the Bureau of Community Relations held 17 public meetings or briefings related to Superfund and non-Superfund sites in State Fiscal Year 1999 and the first half of State Fiscal Year 2000. Issues discussed included proposed cleanup actions, commencement of Remedial Actions, the interim status of Remedial Investigations and Feasibility Studies and other topics. For example, NJDEP attended a township council meeting in June 1999 in Pemberton Township, Burlington County to discuss analytical results for surface water and sediment sampling conducted at Mirror Lake, a recreational lake located downstream from Hanover Lake, where very high levels of lead contamination had been found. In July 1999, the NJDEP held a public meeting in Galloway Township, Atlantic County to discuss ground water contamination in the Genoa Avenue area and other parts of the township. NJDEP also held a public meeting in Monroe Township, Gloucester County in September 1999 to discuss potable well contamination discovered in the Crystal Lake area of the township and installation of a public water line.

The Bureau of Community Relations was also actively involved in disseminating written materials regarding remedial activities at contaminated sites in the state, mailing and handing out more than 1,500 informational documents and related materials to interested parties during this 18-month period. These included fact sheets about individual site actions and public meeting notices, which provided residents and officials with firsthand information on the progress of remedial activities in their communities. This unit also responded to more than 2,000 requests for lists of contaminated sites and customized maps from the **Site Information Program** (see the next page for more details on this service). When requested, the Bureau of Community Relations also provided information to media representatives on the investigation and cleanup of various sites. Lastly, the Site Remediation Program staff participated in 23 outreach activities at various conferences and other events to help explain the remedial process to the public.

Other documents available

The Site Remediation Program also publishes a *Known Contaminated Sites in New Jersey* report, which is a compilation of nearly 9,000 sites with known contamination that are being addressed by NJDEP with public funds or by private parties with NJDEP oversight. This report is updated and periodically released in a printed and electronic format and is available on the Site Remediation Program's web page. This report was last released in September 1997, and will be updated in September 2000. Also, the Site Remediation Program publishes an *Annual Report,* detailing legislative and regulatory action and cleanups for the past year involving both publicly and privately funded actions, and is released in conjunction with the *Publicly Funded Cleanups Site Status Report*.

Other documents available for parties interested in the remediation of contaminated sites in New Jersey include: the *SRP News* (published periodically), *Guidance Document for Remediation of Contaminated Soils* (1998), *Alternative Ground Water Sampling Techniques Guide* (1994), *Field Analysis Manual* (1994), and *Field Sampling Procedures Manual* (1992). Regulations and technical guidance documents also are available.

For more information about NJDEP's Site Remediation Program, contact the Bureau of Community Relations at (609) 984-3081 or visit the program's web page at http://www.state.nj.us/dep/srp.

The Site Information Program

The Site Information Program is a free service offered by the Site Remediation Program that provides potential homebuyers, real estate agents, nonprofit housing organizations, financial institutions, developers and other individuals involved in real estate transactions in New Jersey with specific information on known contaminated sites near their properties of interest. Administered by the Bureau of Community Relations, the Site Information Program employs NJDEP's Geographic Information System (GIS), a computerized mapping system that contains the names and locations of the nearly 9,000 sites on the New Jersey Known Contaminated Sites List, as well as other environmental information. By entering the address of a particular property or its approximate location into the GIS program, the Department generates a map that shows the locations of all known contaminated sites within a half mile or a mile radius of that property, as depicted below. The requestor is also provided with a list of Known Contaminated Sites for the municipality their property of interest is located in. General information about contaminated sites, referrals to other units within NJDEP and detailed fact sheets for Superfund sites and other high profile sites can also be obtained through this outreach and education program. The Site Information Program can be contacted toll free at 800-253-5647.